Improving Continuity of Care Using A Web Based Signout and Discharge Summary System

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Managed care necessitates a better exchange of information between the physicians caring for inpatients and physicians caring for patients in an ambulatory setting. Studies have found that primary care physicians were frequently unaware of the discharge plans for their hospitalized patients. A study by Mageean[1] looked at all hospital discharge communications concerned with acute admissions from one general practice over a three-month period. The study found that over half the patients contacted their general practitioners after discharge before the general practitioner had received information about the hospitalization. No information was received by the general practitioner for 11% of the discharged patients. We are developing a World Wide Web (WWW) based signout and discharge summary system for medical housestaff that will capture and store information about a patient's hospitalization during the hospitalization. After the patient is discharged, an interim discharge summary will be accessible to the primary care physicians who are located in several outpatient clinics in different buildings.

Specifically, because discharge summaries are not readily accessible at our institution, the primary care physician responsible for the post-discharge care of a patient has no quick and reliable access to information about a recent hospitalization. Information such as the reason for the hospitalization, test results, diagnosis, and discharge medications may have a profound impact on how the patient is managed in clinic post-discharge. Additionally, the inpatient physician has no reliable way of communicating requests, such as further testing needed, to the outpatient physician. The outpatient physician is faced with the daunting task of identifying the inpatient provider(s): 12 teams (24 housestaff), 3 General Medicine Wards, 3 service attendings per 1-month block.

At our institution, at the end of every working day, inpatient housestaff must signout to the on-call team. This is currently done by using programs such as Lotus' Ami Pro 3.0 to make a list of all patients on the medicine service with relevant patient histories, medications and any other issues of concern that the on-call team needs to be aware of. The signout is saved on a local computer in the on-call room and is updated everyday. When a patient is discharged from the hospital, the patient's name and information is deleted from the signout by housestaff and is forever lost. Discharge summaries are dictated and then made available as transcribed reports several days later.

We are using HyperText Markup Language (HTML) and Stormcloud Development Corporation's WebDBC 3.0 to create dynamic signout pages that prompt the user for the pertinent patient information. When the patient is discharged from the hospital, the housestaff member deleting the patient will be prompted to complete the interim discharge summary. The summary will already contain information obtained from the sign out in order to reduce data entry time.

This data will be then used to generate an interim discharge summary that can be accessed, with the proper access code, by the primary care physician in outpatient clinics via Mount Sinai's Intranet using Netscape 3.0. The data will be initially stored in a Microsoft ®Access 97 Database residing on a Microsoft® Windows NT Workstation running Microsoft® Peer Web Services.

The WWW paradigm allows access to the provided patient information regardless of computing platform or location while meeting security and confidentiality requirements through appropriate user verification and secure socket layers. Providing the names of the inpatient health care providers (with beeper numbers) provides a means for the outpatient primary care physician to contact the inpatient attending and/or housestaff. Finally, the linkage between the sign out and the interim discharge summary facilitates an incremental completion of the summary. A frequently updated and detailed sign out would result in a significantly completed interim discharge summary available for day of discharge.

In conclusion, we are developing a signout/discharge system that will improve information exchange between inpatient and outpatient care at a given institution (e.g., Mount Sinai Medical Center) during and after hospitalization.

[1] Mageean RJ. Study of discharge communication from hospital. BMJ 1986: 293: 1283-4

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